2b.What is 508 and Why Should I Care?
Section 508 Accessibility Requirements

Although 7 to 10% of the American workforce and over 53 million people have disabilities, but only one in four people with disabilities needs special equipment to work. The federal government's goal is to hire 100,000 workers with disabilities by 2005.   (Kathy Eng)

What Section 508 Means to People with Disabilities" – Debbie Kalstein
Judi Braunston, EPA Region 3, gave the presentation for her daughter, Debbie Kalstein, who was unable to attend. At the age of 16, Ms. Kalstein had neurosurgery and suffered a stroke on the operating table, which caused a seizure disorder. Initially when recovering, she had double vision and suffered from aphasia as well as paralysis on her right side.   Since readers on computers didn't exist 20 years ago and the Internet was just being developed and wouldn't have been accessible to those with disabilities, her mother became her personal reader and typist.

Now the Internet and a laptop are Debbie's research tool, shopping guide and even at times my support group. She can find answers on her own to most anything and everything. She is so adept at using the computer as a tool that her friends and family come to her for answers rather than her having to ask others for help. She emphasized that disabilities can affect people at any age and many people are not born with their disabilities. Whether it is arthritis or muscular degeneration due to age or head trauma from a car accident. The Internet is now the best and most efficient way to deliver information to the general population and especially the disabled population who have may have mobility or hearing problems. Section 508 requirements can open up the world to the blind, deaf and physically disabled.

Agency Strategies for Web Accessibility – Bill Trefzger, Communications Technology Branch
National Cancer Institute   (billt@mail.nih.gov)
Bill Trefzger discussed strategies for web accessibility. Bill's office is tasked with designing, analyzing, testing, and evaluating communication technology systems, products, and services (web sites, software, phone systems and mobile technologies) to make them more accessible and useful.

Usability Engineering is an evidence-based methodology that involves end users in the design, testing, and evaluation processes to produce information systems that are measurably easier to learn, use, and remember. The process involves: planning (goals, objectives, requirements), data collection about users' needs/wants/behaviors, prototype development, iterative usability testing and refining products.

Section 508 of the Rehabilitation Act requires that all federal agencies' electronic systems and information technology be accessible to people with disabilities. This applies to all federal and federally-funded web sites. The Federal Accessibility Standards for Web-Based Intranet and Internet Information and Applications became effective on June 21, 2001. Citizens may now sue federal agencies to ensure compliance with Section 508 and these standards. Typical issues under 508 are PDF files, meta refresh, "go" buttons and drop downs, color, and what is equivalent. The following 16 requirements are included in Section 508:

a. Text equivalent for every non-text element
b. Equivalent alternatives for any multimedia presentation synchronized with presentation
c. Web pages designed so color info is available without color
d. Documents organized to be readable without requiring an associated style sheet
e. Redundant text links provided for each active region of a server-side image map
f. Client-side image maps provided instead of server-side image maps except where no geometric shape
g. Row and column headers identified for data tables
h. Markup used to associate data cells and header cells for data tables with 2 or more levels
i. Frames titled with text that facilitates frame identification and navigation
j. Pages designed to avoid screen flicker with frequency > 2Hz and <55Hz
k. Text-only page with equivalent information or functionality provided if no other way
l. When pages use scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology. When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with section 1194.21(a) through (l).
n. When electronic forms are designed to be completed on line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission fo the form, including all directions and cues
o. Method provided that permits users to skip repetitive navigation links
p. When a timed response is required, user shall be alerted and given sufficient time to indicate more time is required.

The key 508 activities consist of training and awareness for both supervisors and developers, revising systems (tools, interpretation, and testing), review/approval of web sites, management and review of systems (what is working and what isn't). The methods for ensuring that the NCI web site was 508 compliant were contracts and partners, training and product demos, increase understanding the standards, review web sites and provide consultation, and use emerging technologies (accessibility workstation).

The strategy for implementation was to create base of knowledge/expertise, partner and leverage with existing activities, disseminate information to web masters, and increase understanding. To disseminate information, they created a Section 508 web site and list server on the Internet at www.usability.gov for internal use at the National Cancer Institute. This resource for designing useful, accessible web sites and user interfaces contains the following:

I.   Usability Basics
        A. What is usability
        B. Why is it important
        C. How much does it cost?
II.   Methods for Designing Usable Web Sites
            A. Planning
            B. Data Collection

C. Prototype Development
D. Usability Testing
C.   Web Site Promotion
III.   Guidelines and Checklists
A. Web Design and Usability Guidelines
B. Quick Fixes for Usability Problems
C. Usability Checklists, Tools
IV.   Lessons Learned with Before/After Examples
V.   Accessibility Resources
A. Federal Guidelines (Section 508)
B. Tools/Techniques
C. Articles/Newsletters
VI.   Server Log Analysis (techniques for measuring system performance and traffic)
VII.   Statistics & Market Research
A. Statistics on Internet Usage, Trends, Demographics
B. Internet Survey Results
C. Search Engine Statistics
VIII.   Events & Meetings
IX.   Newsletter & Current Publications
A. U-Group listserv
B. Newsletters from experts in Web Design and Usability
C. Books/Journals
X.   Links to other Usability Sites

Also available on line, the Federal Communicators Guide contains a chapter on communicating via the Internet that may be of interest to government Web developers looking to create usable sites. To access the chapter on the Internet, go to www.usda.gov/news/pubs/fcn/chapter4.htm.

The Technology Communications Branch published the NCI Accessibility Standards which follow section 508 and provide the link to the accessibility web site. The Branch provided 8 training sessions for over 160 managers, developers, and contractors.   Staff also partnered with other groups to conduct web site reviews, accessibility trouble shooting, and usability testing for over 2000 sites (8,000,000 pages). However, currently they can't determine the success of their efforts because a complete assessment hasn't been done. There is no consistency in interpretation of the standards, the review/acceptance processes, grading of sites, or aggregating data. Effort to date has focused on technical violations. Knowing when to test with real users is also and issue in trying to measure success of 508 compliance on this many sites.

The partners are developing a plan for assessing the 508 compliance of the Health and Human Services and NCI web sites. The plan will use a protocol for automated tools for human judgment to determine the severity of problems, create a methodology for standard grading and measure overall accessibility, create data for aggregation, and to develop guidelines for when/how to test sites with users. Then they will disseminate the protocol and criteria to the managers and developers and train them. Then assessments will be done and the report prepared.

Additional resources for Accessibility Issues
Usability.gov Accessibility Resources: http://usability.gov/accissibility

NCI Office of Communications Web 508 Site: http://oc.nci.nih.gov/web508
Assessment of Web Accessibility Review/Repair Tools: http://jimthatcher.com/erx.htm
W3C Web Accessibility Initiative: www.w3.org/WA1
Evaluating Sites: www.starlingweb.com/wai/eval2.htm
Federal Accessibility Standards: www.access-board.gov/sec508/508standards.htm
GSA 508 Site: www.section508.gov

The Target Center: An Overview of Assistive Technology – Kathy Eng
(katherine.eng@usda.com)
        Kathy Eng, a rehabilitation engineer at USDA's Target Center, gave conference
participants an overview of assistive technology. Assistive technology include low and high tech
solutions that allow people with disabilities equal access to the world. Although technology
makes things easier for people in general, it makes things POSSIBLE for the disabled.

        The U.S. Department of Agriculture (USDA) established the Target Center in 1992 to
ensure that all its employees had equal and safe access to Electronic Information Technology
(EIT). The Center would do this by assessing, educating, and advocating for the integration of
assistive technology and work site accommodations throughout the Agency. The Target Center
provides the following services: outreach to supervisors, staff, and disabled employees, need
assessments (assistive technology and ergonomics), alternative formatting, equipment,
demonstrations, interpreting services.

        The Center's 8 workstations are for low vision, blind, low mobility, deaf, multi-disability,
ergonomics, portable assistive technology, and Section 508. The low vision work station has
screen magnification and text to speech output capabilities. The blind station has screen
readers, OCR scanning capabilities, Braille displays and embossers (Braille Notetaker), and
Global positioning systems. The work station for hearing impaired includes relay service, TTY,
hearing aid compatibility, and Network communication (chat). The mobility work station has
voice recognition software, one handed keyboard, scooter, and reacher.

        Software, copiers, forms, PDF files, web sites and videos are often inaccessible to
people with disabilities. Section 508 of the Rehabilitation Act directed federal agencies to
eliminate the inaccessibility of web based information and applications, software and operating
systems, and telecommunication products. Section 508 accessibility requirements apply to self
contained, closed products, such as kiosks, printers, copiers, and fax machines.   In addition,
Section 508 applies to desktop and portable computers and video and multimedia products.

        The Target Center provides assistance on Section 508 implementation in the following
areas: web site testing and consultation, training on requirements and available assistive
technology, consultation and information on accessible office equipment, training and
consultation on assistive technology and information technology integration, information and
demonstration of 508 compliant products that help assistive technology work.

An on-line video tour of the USDA Target Center is available at www.usda.gov/oo/vids.htm.
The Target Center web site is available at www.usda.gov/oo/target.htm.